

STA347H1: Probability

Summer 2021

Instructor: Blair Bilodeau

You can call me... Blair. I am not a Doctor or a Professor, so please do not use these titles.

Email: blair.bilodeau@mail.utoronto.ca

Lectures: Mondays and Wednesdays from 6:00PM – 9:00PM

Office Hours: Mondays and Wednesdays from 5:00PM – 6:00PM

TA Office Hours: TBA

Course Website

All materials will be posted on Quercus <https://q.utoronto.ca>.

Calendar Description

An overview of probability from a non-measure theoretic point of view. Random variables/vectors; independence, conditional expectation/probability and consequences. Various types of convergence leading to proofs of the major theorems in basic probability. An introduction to simple stochastic processes such as Poisson and branching processes.

Required Prerequisites

STA247/STA255(70%)/STA237(70%)/STA257/ECO227/STAB52/STA256;

MAT223/MAT240/MATA23/MAT223/MAT240;

MAT235/MAT237/MAT257/(MATB41, MATB42)/(MAT232, MAT236)/(MAT233, MAT236);

Note: (STA257, MAT223/MAT240, MAT237/MAT257 are very strongly recommended)

Please note that all prerequisites for all STA courses are strictly enforced and I cannot waive them.

Any questions about prerequisites should be directed to: ug.statistics@utoronto.ca.

Class Meetings

Lectures will be held live via BBCollaborate on Quercus, and will be recorded for later viewing on Quercus. Since this course is only 6 weeks long, we will be covering lots of material each week. I strongly encourage you to “attend” the lectures live if you are able to as this will prevent you from falling behind.

Office Hours

I will hold my office hours on BBCollaborate Mondays and Wednesdays from 5:00PM – 6:00PM, immediately before lectures. TA office hours will also be held via BBCollaborate with times TBA.

Piazza

We will be using Piazza as a platform for discussions related to the course material and assessments. You can find our course page at: piazza.com/utoronto.ca/summer2021/sta347/home.

Be aware that while students can post anonymously to classmates on Piazza, the identity of the author of all posts is viewable by instructors. I encourage you to review the privacy policy of Piazza. If you choose not to use Piazza, you will not be penalized in any way – it is merely a supplementary tool. In particular, you may post questions on Quercus Discussions if you wish.

Email Policy

My email is at the top of the page. Email is appropriate only for personal matters that can not be shared with the rest of the class. To be fair to all students, I will not answer questions about the course material by email. These questions should be asked during office hours or on Piazza.

All emails must begin the subject line with STA347, otherwise I will delete your email.

Textbook

In place of an official textbook I have prepared PDF course notes. A slightly out-of-date version can be found on my website: <http://www.blairbilodeau.ca/teaching/sta347/probability.pdf>. I will post the most up-to-date version of each chapter on Quercus immediately after the lecture. These notes contain exercises (some selected, some written myself), and you are *strongly advised* to attempt all of these. I will not be providing written solutions, but the TAs and I will be happy to discuss them in office hours.

Supplementary Materials

My course notes are based on multiple probability textbooks, some too elementary for this course and some too advanced. You are encouraged to obtain a copy of at least one from each of these sections as a supplement to the course notes and lectures, however this is not a requirement. I have listed the relevant content sections from each, and they also contain many excellent exercises you can use to study from.

Elementary Probability Theory

Rice, J. (2007). Mathematical statistics and data analysis. [Ch. 1-5]

Ross, S. (2007). Introduction to probability models. [Ch. 1-4, 6, 8]

Evans, M. and Rosenthal, J. (2002). Probability and statistics. [Ch. 1-4, 11] ([Online](#))

Advanced Probability Theory

Rosenthal, J. (2006). A first look at rigorous probability theory.

[Ch. 2.1-2.2, 3.1-3.4, 4.1-4.3, 10.1-11.2, 13.1]

Durrett, R. (2013). Probability: Theory and Examples.

[Ch. 1.2-1.3, 1.6, 2.1-2.4, 3.1-3.4, 5.1-5.2] ([Online](#))

Assessments

You will require a reliable internet connection to complete all assessments.

All assessments will be held through the Quizzes tool on Quercus. You may access your personal notes, the posted course notes, textbooks, or any other notes you can find online. All work must be done individually and independently. Receiving help from anyone on an assessment, whether they are another student in the course or someone external to the course, is a serious academic offence. Providing help to another student in the course on an assessment is an equally serious academic offence. Posting or distributing material from assessments is not permitted at any time.

Assessment	Weight	Time Available (EDT)		Time Due (EDT)	
Syllabus Quiz	5%	July 5	8:00AM	July 19	11:59PM
Lecture Quizzes	10%	Lecture Days	9:00PM	24 hours after lecture ends.	
Term Test 1	20%	July 14	7:00PM	July 14	8:59PM
Term Test 2	20%	July 28	7:00PM	July 28	8:59PM
Term Test 3	20%	Aug 16	7:00PM	Aug 16	8:59PM
Final Exam	25%	TBA, sometime in August 18 – 30. 3 hours.			

The assessments will require you to upload answers as files. Acceptable file types are: PDF, JPEG, or PNG. I suggest handwriting (on paper or tablet) and uploading a picture or scan. You may also use Word or Latex to generate a PDF, but do NOT upload a DOC, DOCX, or TEX file.

Be sure your uploads are clearly legible before submitting; illegible submissions will not be graded.

Lecture Quizzes

There are nine lecture slots which are not being used for a term test. After each of these lectures, there will be a short quiz (1-2 questions) available on Quercus Quizzes for 24 hours. These will be worth 2% each, and only your best 5 will be counted.

Missed Assessments and Late Submissions

Any assessment submitted after the deadline will receive a zero. It is your responsibility to ensure you budget your time properly so you have time to submit before the submission deadline.

Missed quizzes will be given 0%. No accommodations will be given since only your best 5 count.

If you miss a term test or the final exam, you must email steven.campbell@mail.utoronto.ca:

- within 7 days of the submission deadline,
- with the subject line “STA347: [Assessment] Missed” using the specific assessment title,
- including your full name and student number in the body of the email.
- You do not need to provide a reason for missing the assessment.

If you miss one term test, your other two term tests will be reweighted to 25% with the final reweighted to 35%. If you miss two term tests, you will be given an opportunity to write a make-up term test worth 25% (note: if you miss this make-up term test as well, you will be given 0%). The remaining term test will be reweighted to 25% and the final exam to 35%.

You must write at least one term test to pass the course.

If you miss the final exam, you will be given a make-up final exam after the final assessment period worth 25%. The make-up may have a different format than the original exam (e.g., an oral exam).

If you miss a term test or the final exam and do not email Steven according to the procedure described above, you will be given 0% on the assessment.

Regrading Requests

Mistakes occasionally happen when marking. If you feel there is an issue with the marking of an assessment, you may request that it be regraded. Given such a request, I reserve the right to regrade your entire assessment, and your mark may decrease, increase, or stay the same.

Requests to increase part marks on incorrect solutions will not be viewed favourably.

To request a regrade, you must email blair.bilodeau@mail.utoronto.ca:

- more than 24 hours after receiving your grade (do NOT email me immediately),
- within 7 days of receiving your grade,
- with the subject line “STA347: [Assessment] Regrade” using the specific assessment title,
- including your full name and student number in the body of the email, and
- specifying a clear and concise reason for each request, referring to a possible error or omission by the marker. Regrade requests without a specific reason will not be accepted.

Accessibility Needs

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the online classroom, or course materials, please contact Accessibility Services as soon as possible:

accessibility.services@utoronto.ca or <http://www.accessibility.utoronto.ca>.

Copyright

All course materials are copyrighted. If they are from the textbook, the copyright belongs to the textbook publisher. If they are provided by an instructor (for example, lecture notes, recorded lectures, computer code, assignments, tests, solutions) the copyright belongs to the instructor.

Distributing materials online or sharing them in any way is a copyright violation and, in some situations, an academic offence.

Academic Integrity

Academic integrity is fundamental to learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the University of Toronto degree that you earn will be valued as a true indication of your individual academic achievement, and will continue to receive the respect and recognition it deserves. Familiarize yourself with the University of Toronto's Code of Behaviour on Academic Matters available at <http://academicintegrity.utoronto.ca>.